

# United States Patent [19]

Wheless

[11] Patent Number: 4,875,495

[45] Date of Patent: Oct. 24, 1989

## [54] SEPARATION OF LIGHT PARTICLES FROM HEAVY PARTICLES IN A STREAM OF PARTICULATE MATTER

[75] Inventor: Jack C. Wheless, Richmond, Va.

[73] Assignee: Philip Morris Incorporated, New York, N.Y.

[21] Appl. No.: 85,868

[22] Filed: Aug. 14, 1987

[51] Int. Cl.<sup>4</sup> ..... A24C 5/39

[52] U.S. Cl. .... 131/110; 131/84.3

[58] Field of Search ..... 131/84.3, 110, 109.1, 131/169.2

### [56] References Cited

#### U.S. PATENT DOCUMENTS

3,030,965	4/1962	Labbe .	
3,034,514	5/1962	Pinkham .....	131/84.3
3,092,117	6/1963	Labbe .	
4,288,318	9/1981	Essman et al. .	
4,526,182	7/1985	Labbe .....	131/110
4,553,555	11/1985	Cox .....	131/110

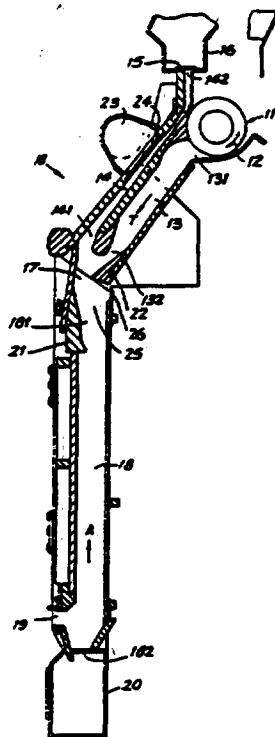
Primary Examiner—V. Millin

Attorney, Agent, or Firm—Jeffrey H. Ingerman

### [57] ABSTRACT

A method and apparatus for separating light particles from heavy particles in a stream of particulate matter, particularly for separating stems from the stream of tobacco filler fed to a cigarette maker, is provided. The tobacco is introduced into a first chamber in which it travels generally downward to a fourth chamber communicating with second and third chambers, the second chamber being the chimney of the cigarette maker and the third chamber extending downward from the fourth chamber. An air stream flowing upward through the third chamber reverses the momentum of most of the light particles and propels them into the chimney, while the heavy particles (stems) and some light particles travel downward into the third chamber. As the light particles fall through the third chamber, their momentum is gradually reversed by the air stream and they rise through the fourth chamber into the chimney. The heavy particles are collected at the bottom of the third chamber.

7 Claims, 1 Drawing Sheet



RECEIVED  
PHILIP MORRIS MANAGEMENT CORP.  
LAW DEPT.—PATENT SECTION

JAN - 2 1990

7 NOTED Tot. males

2021391742